

(Model.)

J. K. DUGDALE.
Washing Machine.

No. 239,318.

Patented March 29, 1881.

Fig. 1.

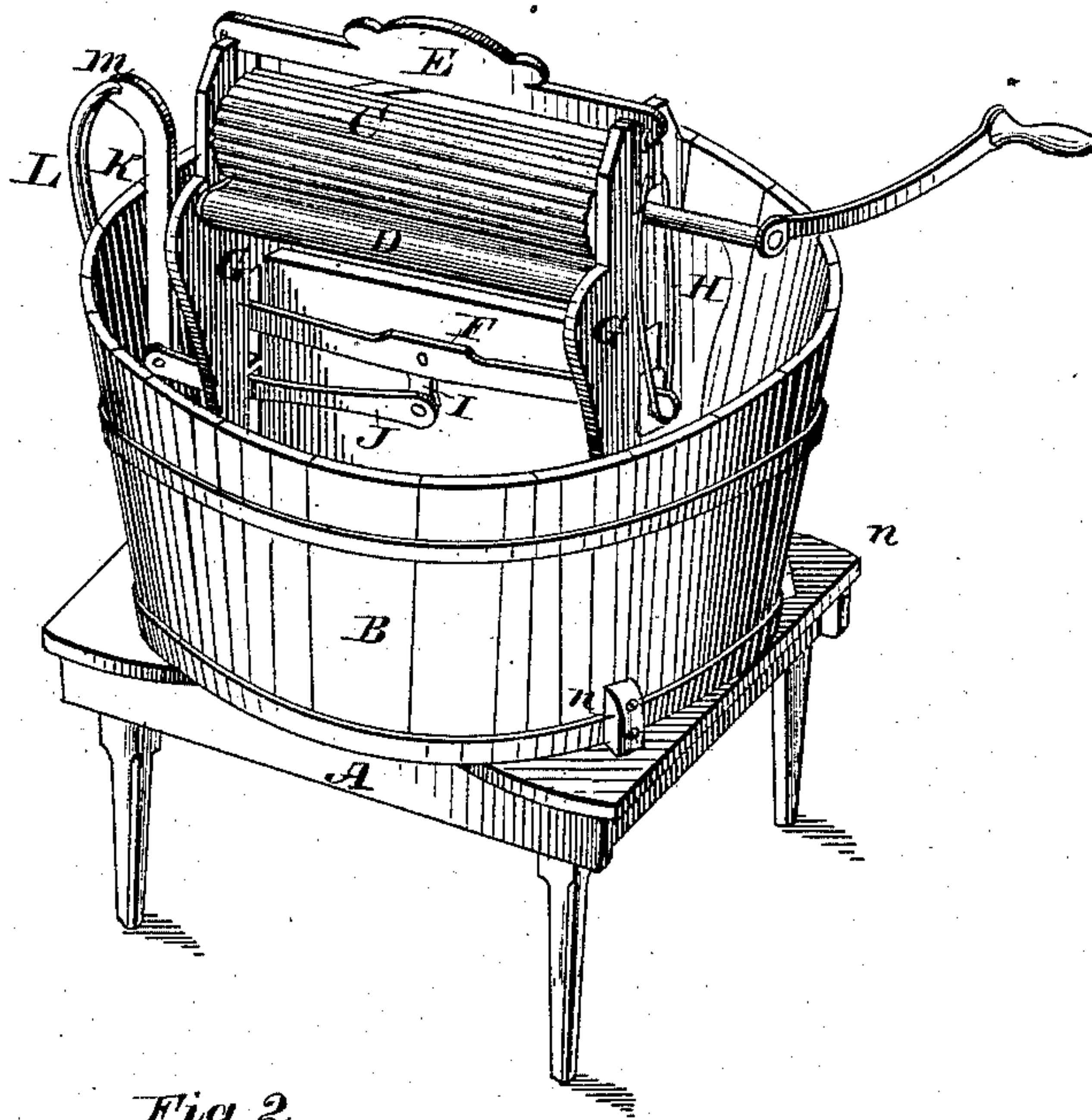


Fig. 2.

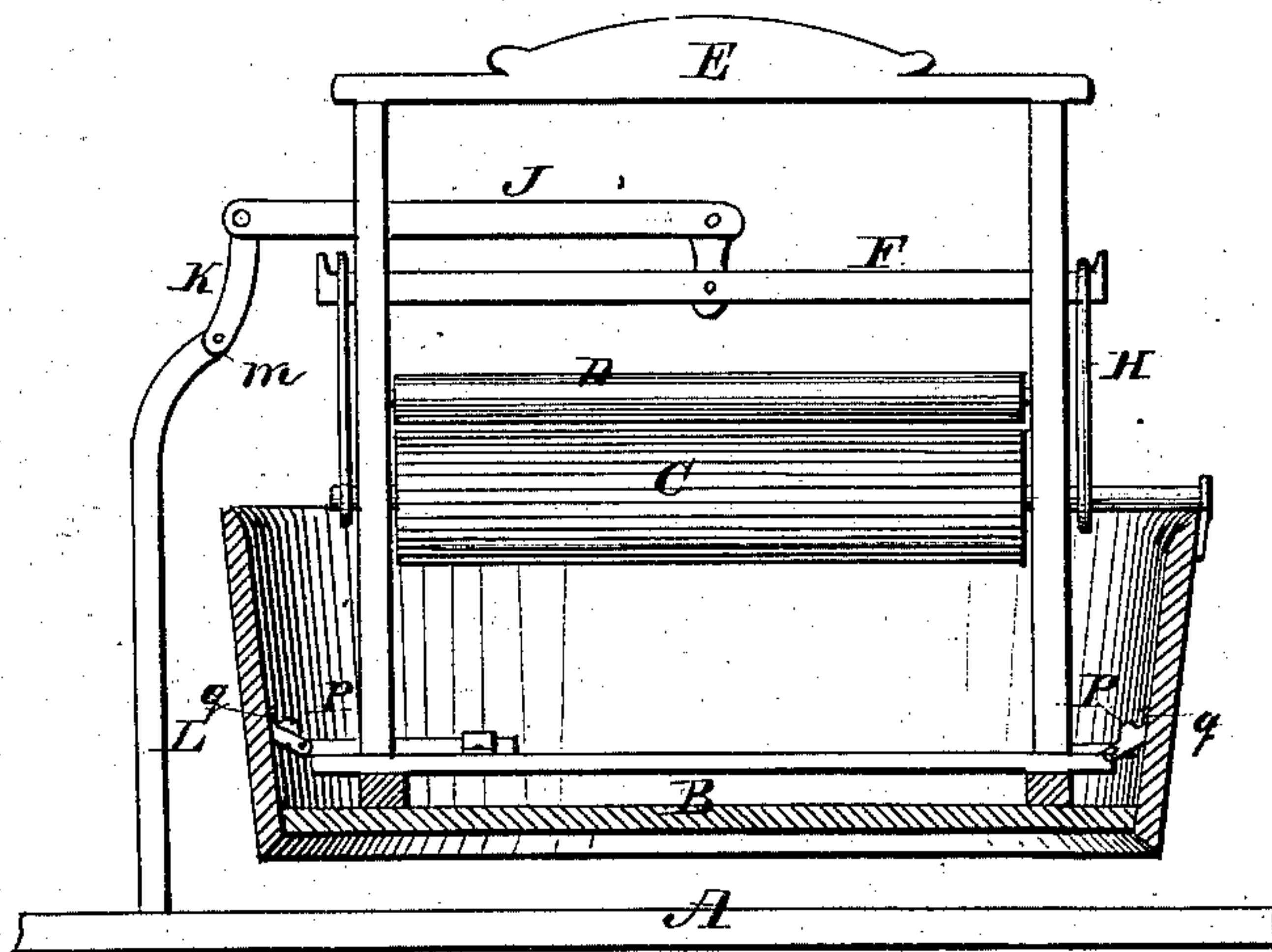
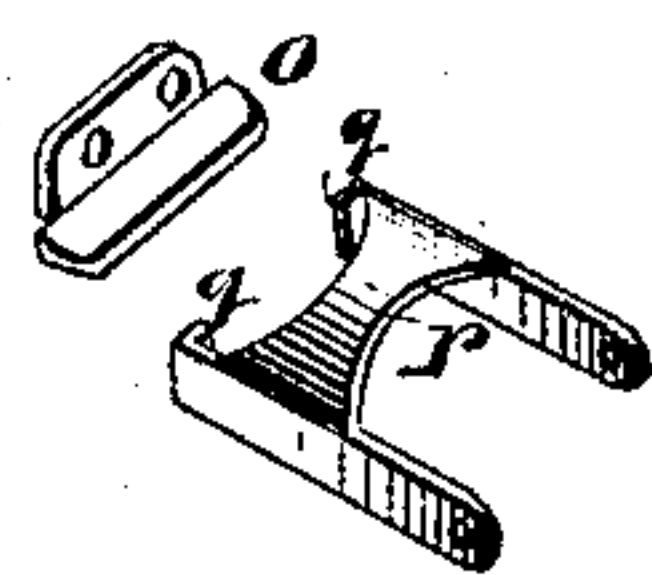


Fig. 3.



Attest.

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JAMES K. DUGDALE, OF RICHMOND, INDIANA.

WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 239,318, dated March 29, 1881.

Application filed August 30, 1880. (Model.)

To all whom it may concern:

Be it known that I, JAMES K. DUGDALE, of the city of Richmond, in the county of Wayne and State of Indiana, have invented a new and useful Improvement in Washing-Machines; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification.

Similar letters of reference indicate corresponding parts.

The nature of my improvement consists in the employment of a system of rods and levers by which the vessel and water in which the clothes are washed are made to produce the pressure necessary to cause sufficient friction for cleansing the goods, and insuring a uniform pressure upon all thicknesses of material.

Figure 1 is a perspective view of the arrangement, including tub and bench. Fig. 2 shows the arrangement reversed. Fig. 3 is a device for holding the apparatus fast in the tub.

A, Fig. 1, is a bench; B, the tub. C and D are the upper and lower rollers or rubbers of any approved style of washing apparatus that may be selected.

E is a frame, in which the rubbers and rollers of the washing apparatus are placed. This frame should be securely fastened into the tub or suds-box B.

Under the rubber bed D is a cross-beam, F, reaching through the end pieces, G G, of the frame E. The ends of this beam are connected by links H H with the bearings of the upper roller or rubber, C.

At the middle of beam F is a link, I, connecting it with lever J. The opposite end of this lever is connected with a rod or bar, K. The upper end of bar K rests upon a standard, L, at *m*, placed outside of the tub and supported by bench A. The opposite side of the tub from the standard L is provided with pivots or hinges *n n*, for the purpose of elevating the said tub B above the bench A, and allowing it to oscillate, as the distance between the rolls or rubbing parts of

the washing apparatus is increased or diminished by the goods passing between the rubbers.

The rubber-bed may be either under or over the roller to which the power is applied.

The fulcrum of the lever J may be at any point found to give the desired pressure.

Also, the pivots upon which the tub rests may be nearer to or farther from the center of the tub, as may be found best.

It will be seen that as the goods are passed between the rubbers the upper one will raise and lower in conformity to the varying thicknesses of the material being washed, which motion is transmitted to the beam F through the connecting-links H H, thence to lever J, and from lever J to draw-bar K, which bar, being supported on rest *m* outside of the tub, raises and lowers it, thereby throwing a part of its weight upon the rubber or roller C. This arrangement may be reversed and placed over the rubbers and rollers C and D, drawing the lower rubber upward, instead of drawing the upper one downward, to make the friction. This is shown by Fig. 2, in which C is the under rubber or roller of the washing apparatus.

H H are the links connecting the bearings of the rubber C, with the beam F, to lever J.

K is the rod connecting the lever J to standard L; or the ends of beam F may be connected with the bearings of the upper roller or rubber, so as to press it downward, instead of drawing the lower one upward, in which case the links H H are dispensed with.

The frame E of the washing apparatus is held firmly in place by clasps attached to an extension-bar reaching across the bottom of the tub.

o is a cleat fastened on the inside of the tub. *p* is the clasp, and is provided with hooks *q q*, which hook into the cleats *o* and hold the bars up to the sides of the tub and under the said cleats.

I do not claim anew anything granted me in Letters Patent for improvement in wringing-machines, dated February 22, 1876, No. 173,776, as the pressure required for wringing is too great for washing. By this arrange-

ment the pressure is modified and adapted to the purpose of washing clothes.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

The combination of bench A, provided with standard or rest L, and oscillating tub or suds-

box B, provided with pivots *n n*, with roller and rubber bed C and D, lever J, and beam F, as described and set forth.

JAMES K. DUGDALE.

Witnesses:

WM. E. BELL,
JOHN HOWARTH.